

Report on the Myriopoda of the Mergui Archipelago, collected for the Trustees of the Indian Museum, Calcutta, by Dr. John Anderson, F.R.S., Superintendent of the Museum. By R. I. ПОВОК, Assistant in the Zoological Department, British Museum. (Communicated by Dr. JOHN ANDERSON, F.R.S., F.L.S.)

[Read 1st December, 1887.]

(PLATES XXIV. & XXV.)

No species of Myriopoda have hitherto, so far as I am aware, been recorded from the Mergui Archipelago, but considering the proximity of this group of islands to the mainland of the Malay Peninsula, it is not surprising that most of the large and conspicuous forms obtained are referable to species which have been from time to time described from various parts of the Oriental Region.

Those that are new are, with one exception, small and inconspicuous individuals, which would in all probability have been overlooked or ignored by any but a scientific collector.

Very little need here be said about the Chilopoda. One specimen only, a species of *Himantarium*, is new. The rest are well known Oriental forms. With regard to these I have deemed it sufficient to give references to the excellent descriptive papers of Dr. Meinert and Dr. Haase.

The Diplopoda are in some respects of greater interest, and have been treated in consequence at greater length. Knowing from experience the immense difficulties to be encountered in the endeavour to identify merely from descriptions species of this group, I have thought it advisable to describe and figure, whether old or new, every specimen occurring in the collection. Fortunately, in most cases, individuals of each sex were taken; it has been possible, therefore, to examine the male copulatory apparatus, and to point out the specific distinctions presented by this organ. I have described as new one species of *Glomeris*, two of *Paradesmus*, two of *Spirostreptus*, and one of *Spirobolus*.

It is with great pleasure that I take this opportunity of expressing my obligations to Dr. Meinert and to Dr. Karsch for kindly comparing most of the specimens here enumerated with the types of species preserved in the Museums at Copenhagen and at Berlin, to which I had no access.

With the object of assisting fellow-workers, by affording them some means of ascertaining what has already been done with regard to this group of animals in the East, I have added at the

end of my paper a list of the principal publications which treat in any way of the Myriopoda of the Oriental Region. Of these special mention may be made of the excellent monograph of the Chilopoda published by Dr. Erich Haase ("Die Indisch-Australischen Chilopoden," Abh. Ber. zool. Mus. Dresden, 1887).

## I. CHILOPODA.

### Family SCOLOPENDRIDÆ.

Genus SCOLOPENDRA, *Linn. Syst. Nat.* p. 1062, ex parte;  
*Newport, Trans. Linn. Soc.* xix. p. 377.

SCOLOPENDRA SUBSPINIPES, *Leach, Trans. Linn. Soc.* xi. p. 383.

Var. DE HAANII, *Brandt, Recueil etc.* p. 59.

This variety, characterized by the absence of spines from the under surface of the anal femora, is very commonly met with in the Oriental Region.

Specimens were taken in Sullivan Island, King Island, and Kisseraing.

Genus OTOSTIGMA, *Porath, Bih. Sv. Vet.-Akad.*

*Handl.* B. iv. p. 18.

*Syn.* Branchiotrema, *Kohlrausch, Arch. f. Naturg.*

Jahrg. 47, p. 70.

OTOSTIGMA CARINATUM, *Porath, op. cit.* p. 20.

Var. INSULARE, *Haase, op. cit.* p. 69.

Four specimens, one from Sullivan Island and three from King Island.

This southern variety of the Chinese species has been recorded from Java and Ceylon.

### Family GEOPHILIDÆ.

Genus MECISTOCEPHALUS, *Newp. Proc. Zool. Soc.* x. p. 178.

MECISTOCEPHALUS PUNCTIFRONS, *Newp. t. c.* p. 179, 1842.

*Syn.* M. heros, *Meinert, Proc. Amer. Phil. Soc.* xxiii. p. 214, 1886.

One adult specimen from Mergui, one adult and one young from Sullivan Island, and one young from King Island.

A widely distributed Oriental species.

Dr. Meinert, by whom these specimens were examined, identified them with his *Mecistocephalus heros*, a species recorded from the Island of Mauritius. After carefully comparing them with the type specimen of *Mecistocephalus punctifrons* (Newport), and finding that they differ from it in no constant character, I have

been obliged to add *heros* to the list of synonyms appertaining to *M. punctifrons*. For these synonyms, see Haase, *op. cit.* p. 104.

Genus ORPHNÆUS, *Meinert, Nat. Tidsskr.* 3. vii. p. 17.

ORPHNÆUS BREVILABIATUS, *Newport, sp.* (Plate XXIV. figs. 2, 2 a.)

*Syn.* *Geophilus brevilabiatus, Newport, Trans. Linn. Soc.* xix. p. 436.

*Geophilus bilineatus, Peters, Reise Mossam., Ins.* p. 531, pl. xxiii. fig. 4.

*Orphnæus lividus, Meinert, Nat. Tidsskr.* 3. vii. p. 19.

One female specimen from Sullivan Island.

This specimen was kindly identified by Dr. Meinert with his species *Orphnæus lividus*, but since it agrees in all respects with the type specimen of *Geophilus brevilabiatus* (Newport), which is preserved in the British Museum, there is no doubt that Dr. Haase (*op. cit.* p. 111) is perfectly correct in his supposition that Dr. Meinert redescribed *Geophilus brevilabiatus* (Newport) as *Orphnæus lividus*.

To the list of synonyms made out by Dr. Haase for this species may be added *G. bilineatus* (Peters).

This species is very abundant in the Oriental Region.

Genus HIMANTARIUM, *C. Koch, Syst. Myr.* p. 82;

*Meinert, Nat. Tidsskr.* 3. vii. p. 21.

HIMANTARIUM INDICUM, *Meinert, Proc. Amer. Phil. Soc.* xxiii. p. 228. (Plate XXIV. figs. 3-3 b.)

One male specimen from King Island, named by Dr. Meinert. The type of this species was taken at Kulu.

HIMANTARIUM MEINERTI, *sp. nov.* (Plate XXIV. figs. 1-1 b.)

Length 85 mm. Body narrowed anteriorly and posteriorly. Maxillary feet almost reaching the frontal margin; smooth; sternum twice as wide as long; with anterior margin slightly sinuate and unarmed; basal segment unarmed; claw strongly curved and unarmed.

Cephalic plate smooth, slightly wider than long; posterior margin almost straight; not covering maxillary feet posteriorly.

Basal plate a little narrower than the cephalic plate, four times as wide as it is long. Pre-basal plate visible.

Antennæ long, at the base in contact, tapering towards the apex; hairy; segments longer than wide; ultimate segment slightly longer than the penultimate.

Dorsal plates smooth, strongly bisulcate; area between the sulci irregularly striated longitudinally.

Ventral plates with shallow median depression; porous area occupying the posterior portion of the plate.

Anterior pair of feet a little shorter and a little more slender than the succeeding pairs.

Posterior pleuræ not coxiform, clothed with short hairs; porous: last ventral plate with lateral margins slightly converging posteriorly; with rounded angles and straight hinder margin.

Anal feet (in the female) much longer than the preceding pair; slender; ultimate segment equal in length to the penultimate and unarmed.

115 pairs of legs.

A single female specimen from Sullivan Island.

I have named this species after Dr. Meinert, to whom so much of our knowledge of the Chilopoda is due.

## II. DIPLOPODA.

### Family GLOMERIDÆ.

Genus GLOMERIS, *Latr. Hist. Nat. d. Crust.* iii. p. 44;

*Leach, Zool. Misc.* iii. p. 32, 1817.

[GLOMERIS CARNIFEX, sp. n. Segments shining, black above, with testaceous posterior margins; lateral portion of second segment pink or pale brick-red; lateral margins of the remaining segments either reddish or testaceous; posterior half of posterior somite pale pink or brick-red.—Tenasserim. Collected by Mr. E. W. Oates; see Note, p. 301.]

GLOMERIS CARNIFEX, var. PALLIDA, var. n. (Plate XXIV. figs. 7, 7 a.)

Colour of under surface of head and of somites testaceous; upper surface of somites black, with testaceous posterior and lateral margins; a central longitudinal testaceous line, and a large lateral testaceous spot, which in the anterior somites unites with the marginal lateral testaceous patch.

Segments shining; thickly and finely punctured. First dorsal plate with two transverse striæ; second with from seven to ten lateral striæ; remaining dorsal plates with from three to five striæ.

Eye on each side consisting of from six to eight ocelli arranged in a linear series and of a single ocellus situated on the outside

of the upper extremity of this series. In one female specimen the left eye consists of sixteen ocelli, nine being arranged in a linear series, with three on the inside and four on the outside of the series. This abnormal arrangement calls to mind the aggregate eye of the *Sphærotheria*.

Posterior dorsal plate of different individuals exhibiting different degrees of emargination.

In the male the coxæ of the eighteenth pair of feet are not coalesced, and these limbs are relatively larger when compared with the copulatory feet and with the preceding pairs, than they are in, e. g., *G. connexa*.

Copulatory feet very stout, composed of five segments; intercoxal lamina pyriform, with short and slender lateral processes; second segment towards its distal end giving off inwardly a setiferous process; third segment bearing two processes, an anterior and a posterior—the former short, conical, setiferous, the latter broad and somewhat quadrate; fourth segment bearing an upturned tooth; fifth segment curved.

Nine specimens, five males and four females, preserved in spirit of wine. From Elphinstone Island.

This variety differs from the typical form in the absence of the red colouring-matter on the segments.

The occurrence of this genus in the Oriental Region is of peculiar interest, since its headquarters appear to be the Mediterranean district of the Palæarctic Region. In the Ethiopian, Oriental, and Australian Regions its place is taken by the allied genera *Sphærotherium* and *Zephronia*.

In 1865, however, Dr. Wood (Proc. Acad. Nat. Sci. Philad. p. 172) described a species of *Glomeris* from Hong Kong. To this he gave the name *bicolor*; but his description of it is so inadequate, that I am unable to say whether or not it is identical with this species from Tenasserim and Mergui. So far as may be judged by the description, it appears to apply to a different form.

#### Family POLYDESMIDÆ.

Genus STENONIA, Gray, *Todd's Cyclop. Anat. Phys.* iii. p. 546.

Subgen. ACANTHODESMUS, Peters, *Monatsber. K. Preuss.*

*Akad. Wiss. Berlin*, 1864, p. 546.

ACANTHODESMUS PILIPES, Peters, *t. c.* p. 544. (Plate XXIV. figs. 4-4 c.)

♂ and ♀. Length about 74 mm., width 13 mm.

Colour for the most part dark reddish brown above, paler beneath; keels, antennæ, and legs testaceous. In young specimens the prevailing colour is a light reddish brown, the central portion of each dorsal plate being scarcely darker than the keels and legs. One adult female also presents this peculiarity of coloration.

Keels and keel-bearing portion of each dorsal plate densely and finely granular, with a row of larger granules at the posterior margin. Posterior dorsal plates marked indistinctly with three transverse rows of tubercles. Anterior dorsal plates more coarsely granular than the posterior.

External margin of each keel very obscurely denticulated, and, at the hinder end of the body, produced posteriorly into a short sharp process. In the young specimens, *i. e.* those possessing but 19 somites and of which the males are without copulatory feet, the granules are relatively coarser and the lateral denticles of the keels much more strongly marked than in the adults. In the largest individual of the series of adults, which is unfortunately a female, the lateral margins of the keels are smooth.

Each somite provided with three tubercles on the outside and two on the inside of the point of articulation of the legs.

Legs and antennæ thickly clothed with short hairs. First dorsal plate nearly double as wide as it is long; anterior and posterior margin bearing a single row of tubercles. Each anal valve with a single tubercle; subanal plate with a tubercle on each side of the middle line. In the male the copulatory foot is composed of two subequal segments; in the proximal segment the proximal half is slender and simple, the distal half stout; in the distal segment the proximal half is stout, the distal half slender and terminating in two long, approximately equal, hook-like processes.

This species is allied to *Stenonia margaritifera* (Gervais, Ins. Apt. iv. p. 102), and to *Stenonia Schetelyi* (Karsch, Archiv. Naturg. 1881, p. 37), but differs from both in the shape of the copulatory foot. This organ is in *St. Schetelyi* terminated by a single long curved process; in *St. margaritifera* by two curved processes, one long and one short; and in *St. pilipes* by two long curved processes.

Eleven adult specimens (three males and eight females) and four young specimens (two males and two females) were brought from Sullivan Island, King Island, and Owen Island.

My thanks are due to Dr. Karsch for the name of this species.

It is perhaps worth while to point out in connection with this

species that the long series of forms from which the above description has been taken shows well to what an extent characters which have been regarded as valuable for the separation of species may vary with age in individuals which are without doubt specifically identical.

Genus *PARADESMUS*, *Sauss. Linn. Entom.* xiii. p. 325.

*PARADESMUS KARSCHI*, sp. nov. (Plate XXIV. figs. 5-5 b.)

Length about 43 mm., width about 5 mm.

Colour: the anterior cylindrical portion of each somite very dark chocolate-brown above and at the sides; testaceous beneath. Upper surface of keel-bearing portion yellow with brown anterior margin; lateral portions brown; sternal portion testaceous. Upper and under sides of keels testaceous. First dorsal plate testaceous, with patch of brown colour towards the anterior margin.

Legs pale brown; head and antennæ black.

Body smooth and shining.

Keels horizontal, with very thick lateral margin, upon which is situated the foramen repugnatorium. Keels of the first segment well developed and not projecting below those of the second.

First dorsal plate more than double as wide as it is long; very nearly as wide as the second, and double as long as the keel-bearing portion of the second.

Head with a median longitudinal sulcus.

Each dorsal plate bearing a transverse sulcus, running from the base of one keel to the base of the other. Posterior somite triangular, truncate, with an anterior larger and a posterior smaller tubercle on each side; subanal plate bituberculate.

Copulatory foot of the male slender and curved, terminating with two hooked dissimilar processes: the posterior of these two processes is wider and at the apex tridentate; the anterior, slender and pointed, is closely adherent to the posterior.

Five male and five female adult specimens, preserved in spirit of wine, from King Island and Sullivan Island.

The form of the copulatory foot shows that this species, which I have named after Dr. Karsch, is closely allied to *Paradesmus vicarius* (Karsch, *Archiv f. Naturg.* 1881, p. 38).

*PARADESMUS CRUCIFER*, sp. nov. (Plate XXIV. figs. 6-6 b.)

Length about 60 mm., width about 5 mm.

Colour: upper surface of each somite pale reddish brown, with

a median longitudinal darker band running from the anterior to the posterior border. Basal portion of upper surface of keels dark brown, passing into yellow towards the apex; raised margin of keels clear yellow; a dark-coloured band passing from the base of one keel to that of the other, and cutting the longitudinal band at right angles, forms with it a cross-shaped mark. Upper portion of the sides of each somite dark chocolate-brown, passing below and on the underside into light brown; under surface of keels pale yellow. Head almost black. Posterior portion and keels of first dorsal plate yellow; anterior portion black. Legs clear yellow; antennæ yellow, with apical segment and distal end of penultimate segment brown.

Body smooth and shining.

Keels almost horizontal, slightly raised, situated at the summit of the sides of the segments. Antero-external border very convex and bearing in a depression the foramen repugnatorium. Keels of first segment well developed and slightly depressed.

First dorsal plate more than double as wide as it is long; very nearly as wide as the second and double as long as the keel-bearing portion of the second.

Keels of posterior segments strongly projecting backwards. Head with a median longitudinal sulcus.

Each dorsal plate bearing a transverse sulcus running from the base of one keel to that of the other. Posterior portion of each dorsal plate obscurely striated longitudinally. Posterior somite triangular, truncate, bifid, bearing three tubercles on each side. Subanal plate rounded, with a tubercle on each side of the middle line.

A single female specimen from King Island. The right antenna is abnormally developed, having one segment fewer than the left.

This species may at once be distinguished from the preceding by the difference of colour, by the slightly raised keels, and by the convexity of the antero-lateral margins of the keels.

#### Family IULIDÆ.

Genus SPIROSTREPTUS, *Brandt, Bull. Mosc.* 1833, p. 203.

Subgen. NODOPYGE, *Brandt.*

SPIROSTREPTUS (NODOPYGE) OPINATUS, *Karsch, Zeits. Naturwiss.* liv. p. 23. (Plate XXV. figs. 2-2 c.)

Length 153 mm. Number of somites 62 to 66.



Hind half of each somite brown with reddish posterior margin; head, antennæ, and first dorsal plate light brown; legs clear yellow.

Somites smooth and shining.

Lower lateral portions of the hinder half of each somite longitudinally striated; fore part of each somite concentrically striated.

Belly-grooves oblique; those on the central somites as long as the two basal segments of the legs.

First dorsal plate not extending laterally below the succeeding ones; antero-inferior border rounded, with margin elevated and thickened. The groove that marks this thickening extending up to and beyond the outer margin of the ocular area; postero-lateral portions striated. Forehead with median sulcus.

Posterior somite produced into a short, slightly upturned spine, projecting slightly beyond the anal valves.

Anal valves with margins thickened and slightly compressed; sub-anal plate triangular, marked off from the posterior segment by a groove.

In the male the antennæ are relatively longer and the margin of the anal valves more convex than in the female.

The anterior lamina of the copulatory organ produced below into two processes, the inner of which is slender and styliform. The upper slender portion of the anterior lamina is attached to a small triangular plate, by which it is connected with the corresponding portion of the opposite side. The posterior lamina, viewed from the front, is seen to be dilated below, rod-like above; the inferior border of the lower dilated portion giving off two processes, an external and an internal; the external process projecting downwards and outwards. To the rod-like upper portion is attached the central portion of the copulatory organ. This consists of a slightly curved, elongate piece, which below is produced into an upcurled membranous expansion. At the proximal end of this is a simple styliform process, the upper margin of which is slightly serrated. This distal end of the membranous portion is bifid and setiferous. From the outer side towards the distal end springs a long curved spur.

Four specimens, three females and one male, from Sullivan Island.

The species was described by Dr. Karsch from Tenasserim.

*SPIROSTREPTUS (NODOPYGE) ATERRIMUS*, sp. nov. (Plate XXV. figs. 1-1*d.*)

Length 217 mm. Number of somites 66-67.

Hind half of each somite shining black, with reddish tinge at its posterior margin; anterior portion black but less shining. Head dark brown, shining. Legs and antennæ shining dark brown, with distal margin of each segment yellow.

Each somite divided by a sulcus, which is deeper at the sides than above, into an anterior and posterior portion: posterior portion smooth above, striated at the sides and below; anterior portion marked towards its free margin by fine concentric striæ.

Belly-grooves oblique; those of the posterior somites shorter than those of the central and anterior somites.

First dorsal plate not extending laterally below those that succeed it; antero-inferior border rounded, with raised and thickened margins; the groove that marks this thickened margin reaching up to the ocular area; postero-lateral portions very faintly striated.

Forehead with median sulcus.

Posterior segment produced into a short upturned spine, projecting slightly beyond the margin of the anal valves.

Anal valves with margins thickened and strongly compressed; sub-anal plate triangular, not separated by a groove from the posterior segment.

In the male the antennæ are relatively longer than they are in the female; the head is shorter; the raised margin of the first dorsal plate thicker, and the free border of the anal valves more convex.

Anterior lamina of copulatory organ simple and spatulate, dilated below, slender above; the apex of the upper slender portion attached to a small triangular plate, by which it is connected with the corresponding piece of the opposite side. The posterior lamina, viewed from the front, dilated below, rod-like above; the inferior border of the lower dilated portion giving off two processes, an external and an internal; the external process projecting downwards and inwards. The anterior and posterior laminae of the copulatory organ are continuous behind, and they together form a sheath for the central lamina, which is above attached to the superior rod-like portion of the posterior lamina. Each central lamina consists of a slightly curved, elongate, more or less cylindrical piece, which below is produced into an up-curved membranous expansion. At the proximal end of this there is an elongate slender piece, terminated by a small sharp hook. From the inner margin near its proximal extremity this membranous portion gives off a sharp, slightly curved spur; its

distal extremity, which is very much curled, terminates in three irregular processes, the central of which bears a series of fine bristles.

Two specimens, one male and one female, from Mergui.

This species was identified by Dr. Karsch as a variety of *Sp. opinatus*, but the form of the copulatory foot, an organ which that naturalist had no opportunity of examining, serves at once to distinguish it. From the form of this organ it appears to be allied to *S. lankaensis* (Humbert), but in other particulars it is undoubtedly different.

*SPIROSTREPTUS REGIS*, sp. nov. (Plate XXV. figs. 3, 3 a.)

Length 55 mm. Number of somites 61.

Hind half of each somite deep brown, with paler margin; front half testaceous; anal somite testaceous; margins of valves and apex of spine brown; first dorsal plate testaceous in the centre, brown in front and behind, with anterior and posterior margins pale yellow. Antennæ, legs, and front of head testaceous. Body smooth and shining.

Each somite divided by a sulcus into an anterior and posterior portion. Posterior portion below marked with the usual longitudinal striæ; above very faintly grooved in the same direction. Grooves less strongly marked in the anterior than in the posterior somites.

First dorsal plate not extending laterally below the succeeding one; lateral portion striated and much attenuated; antero-inferior margin very round and marked off by a groove.

Forehead with median sulcus.

Posterior somite produced into a very short, very slightly upcurled spine, which projects slightly beyond the margins of the anal valves.

Anal valves with margins thickened and slightly compressed; posterior border very convex; sub-anal plate triangular, marked off from posterior somite by a sulcus.

A single female specimen from King Island.

Genus *SPIROBOLUS*, *Brandt, Bull. Mosc.* 1833, p. 202.

*SPIROBOLUS CAUDULANUS*, *Karsch, Zeits. Naturwiss.* liv. p. 60. (Plate XXV. figs. 4-4 b.)

Length 75 mm. Number of somites 52.

Each somite pale olive-green, with darker posterior portions; centre of the dorsal portion blood-red; posterior somite and

anal valves very pale olive-green; antennæ, legs, and region of labrum ferruginous.

Each somite marked below by a sulcus, which becomes fainter and finally disappears towards the dorsum. Foramen repugnatorium situated immediately behind this sulcus, above the middle of the somite; a small area surrounding the foramen black and smooth. Each somite thickly and finely punctured; lateral inferior portion as high as the foramen, striated. Posterior portion of each somite more strongly striated, less strongly punctured.

First dorsal plate laterally scarcely overlapping and not extending lower than the second; anterior border nearly straight, forming with the posterior border a blunt rounded angle; antero-inferior margin with a strongly marked groove.

Lower portion of clypeus with strongly marked central sulcus; upper portion of sulcus very faintly indicated. Labral region marked with two impressions on each side of the middle line.

Posterior somite produced into a stout, blunt process, which projects slightly beyond the margins of the anal valves. Margins of anal valves strongly thickened and compressed. Sub-anal plate posteriorly angulate.

A single female specimen from King Island.

The specimen described by Dr. Karsch, which is also a female, was from Siam. The male appears to be unknown.

*SPIROBOLUS PHEANUS*, *Karsch, t. c. p. 65.* (Plate XXV. figs. 6-6 e.)

Length 52 mm. Number of somites 55.

Posterior portion of each somite testaceous, anterior portion brownish grey. Legs, antennæ, and lower portion of clypeus testaceous.

Each somite marked with circular sulcus into an anterior and a posterior portion; very finely punctured; laterally and inferiorly longitudinally striated. Dorsally the central portion is furnished with numerous linear elevations, which, running parallel to the margins of the somite, and anastomosing in every direction, give rise to a reticulated pattern; the interstices formed by the intersection of these elevations posteriorly break up into more or less elliptical areas, and disappear on the hinder portion of the somite. Foramen repugnatorium inconspicuous, situated upon the middle portion of the somite. Somites not provided with scobina.

First dorsal plate laterally narrowed, not projecting below the second; anterior border merging almost imperceptibly with the lateral; not striated; marked with marginal sulcus.

Lower portion of clypeus with a longitudinal median sulcus, upon each side of which are two widely separated punctures.

Last somite produced into a blunt process, which scarcely projects beyond the margins of the anal valves. Margins of anal valves very slightly compressed, convex. Sub-anal plate triangular.

Anterior lamina of copulatory organ is more or less quadrate, and is attached to that of the opposite side by a conspicuous triangular piece; each of the upper angles of the triangular piece is produced into a long process which curves over the upper end of the semiquadrate lamina; the anterior lamina is on each side extended backwards and comes into contact with the posterior lamina, which itself, more or less quadrate, forms the posterior wall of the channel in which lies the central foot-lamina. Attached to the upper margin of the anterior lamina and projecting backward from it, there is a simple slightly curved rod, with the posterior extremity of which articulates the central lamina. This consists of a stout piece, with smooth curved rounded anterior border, blunt distal end, and with inner and hinder borders membranous and excavated. In the lower portion of the excavation lies a curled pointed flagellum.

Four specimens, two males and two females, from King Island, and Owen Island.

The female of this species, described from Bangkok, has hitherto only been known.

*SPIROBOLUS ANDERSONI*, sp. nov. (Plate XXV. figs. 5-5 *d.*)

Length of large specimen 52 mm. Number of somites 55.

Anterior and posterior portions of each somite testaceous; central portion slate-coloured; legs, margins of first dorsal plate, antennæ, and region of labrum testaceous. Each somite divided by two circular sulci into three parts. Foramen repugnatorium situated between the middle and posterior divisions; middle and posterior divisions strongly striated at the sides; dorsally marked with scattered crescentic impressions; posterior portion finely striated longitudinally. Entire somite finely punctured. The crescentic impressions form a well-marked line running parallel with the margins of the somite; this line is fainter upon the posterior than upon the anterior somites.

Lateral portions of first dorsal plate very much narrowed; anterior margin meeting the posterior margin in a rounded angle; margin of the angle and of the lower half of the dorsal plate with raised border; not striated.

Lower portion of the clypeus with well-marked sulcus, upon each side of which are four punctures.

Posterior segment produced into a more or less pointed process, which projects beyond the margins of the anal valves.

Margins of anal valves convex and not compressed. Sub-anal plate triangular, with posterior angle rounded.

Anterior lamina of copulatory foot wide above, narrow below, and at its distal end abruptly passing into a slender projection; inner margin nearly straight; outer margin sinuate. Laterally it is in contact with the posterior lamina, which is pointed below, and bears near the distal extremity on the outer side a conspicuous indentation. Above there is a simple slender piece, articulated to the free extremity of which is a backwardly-projecting clavuliform rod. To the posterior end of this rod articulates the central lamina, which apparently consists of two segments, an upper and a lower; the two together, being hollowed out behind, form a complete sheath, chitinous in front, membranous in the rear. Upper segment slightly curved, with smooth round anterior margin, giving off at the point of junction with the lower segment two short processes; lower segment much smaller than the upper, terminates below in a pointed projection.

Four specimens, two males and two females, from Elphinstone Island.

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NOTE.—At the time when I began to draw up this Report upon the Myriopoda of the Mergui Archipelago, it was not possible, owing to the lack of similar Reports, to compare directly the fauna of this group of islands with that of any one district in the Oriental Region. An exception, however, to this statement must be made in the case of Ceylon; for the Myriopoda of this island have been worked out by Mons. A. Humbert. All that could be said in this respect was that the islands present general faunistic affinities—which certainly is true enough—with the rest of the Indian and Indo-Malayan area.

But while the present paper has been in the hands of the printers I have fortunately had an opportunity of examining two extensive collections of Burmese Myriopods. The first of

these was made by Sig. M. L. Fca, and has been kindly intrusted to my care by the Marquis G. Doria for the purpose of identifying the specimens it contains. The second, still more extensive than the first, was amassed by Mr. E. W. Oates, who has, with great liberality, lately presented it in its entirety to the Natural History Museum.

An inspection of these two collections is sufficient to show that the Myriopod fauna of Mergui is in most respects obviously related to that of South Burmah, and has certainly been derived from it. Consequently, in the case of the species of *Glomeris*, described on p. 290, I have thought it advisable to insert the description of what I consider is probably the parent species, namely that occurring on the mainland, and to treat the insular form as a variety. Otherwise, if the Mergui form be now described as a new species, it will be necessary, when reporting on the Burmese collection, to make the Burmese form the variety; that is, the continental, and probably therefore the parent, form will stand as a variety of its own descendant—the insular form.

On the other hand, it is desirable to consider another view of the case which would arise if there were met with on the mainland specimens resembling the Mergui form, *pallida* and others constituting a series of gradations from it to the red-bordered form *carnifex*. In that case *carnifex* should perhaps be considered a variety of *pallida*.

Or, again, supposing even that *pallida* does not occur on the mainland, there is still the possibility that it (the Mergui form) may not be derived from the Burmese form *as it at present exists*, but that it may be the unmodified descendant of a form which on the mainland, owing to keener competition, has been transformed into *carnifex*, while in Mergui it has remained unchanged, safe from such competition in its insular isolation. In that case either the two forms should constitute distinct species, or *carnifex* should rank as a variety of *pallida*.

But to support this last hypothesis there is no evidence. In fact such evidence as there is, namely half a dozen specimens of *carnifex* from Tenasserim, and half a dozen of *pallida* from Mergui, is in favour of the view which has been adopted, *i. e.* that *pallida* is a variety of *carnifex*. If the question of the relationship is capable of solution, the solution can only be arrived at by the exertions of collectors in both the districts in parts of which specimens have hitherto only been taken.

*Bibliography.*

- GERVAIS, P.—Myriopodes, in Walckenaer's *Hist. nat. des Insectes, Aptères*, iv. Paris, 1847.
- HAASE, E.—*Die Indisch-Australischen Myriopoden (Chilopoden)*. Berlin, 1887.
- HUMBERT, A.—“*Essai sur les Myriopodes de Ceylan*,” *Mém. Soc. Phys. et Hist. nat. Genève*, xviii., 1865.
- KARSCH, F.—“*Zum Studium der Myriopoda Polydesmia*,” *Archiv für Naturg.* xlvii. p. 36, 1881.
- KARSCH, F.—“*Neue Juliden des Berliner Museums*,” *Zeitschr. Naturwiss.* liv. p. 1, 1881.
- KOCH, C.—*Die Myriopoden*. Halle, 1863.
- KOCH, L.—“*Japanesische Arachniden und Myriopoden*,” *Verh. zool.-bot. Ges. Wien*, xxvii. p. 787, 1878.
- KOHLRAUSCH, C.—“*Gattungen und Arten Scolopendriden*,” *Archiv f. Naturg.* xlvii. p. 50, 1881.
- MEINERT, FR.—“*Myriopoda Mus. Cantab.*,” *Amer. Phil. Soc.* 1886, p. 161. *Myriopoda Mus. Havn.*: Copenhagen, 1886.
- PETERS, W.—*Monatsber. d. königl. preuss. Akad. Wiss.* Berlin, 1864.
- PORATH, C. O. v.—“*Om några exotiska Myriopoder*,” *Bihang K. Svensk. Vet.-Akad. Handl.* iv., 1876.
- SAUSSURE, H. DE.—“*Description de divers Myriopodes du Musée de Vienne*,” *Verh. zool.-bot. Ges. Wien*, xix., 1869.
- TÖMÖSVÁRY, E.—*Myriopoda a Joanne Xantus in Asia orientali collecta. Enumeravit speciesque novas descripsit.* *Term. Füzetek*, ix. p. 62.
- VOGES, E.—“*Beiträge zur Kenntniss der Juliden*,” *Zeitschr. wiss. Zool.* xxxi., 1878.

*Note.*—Not to overburden the text, I have purposely refrained from giving references to many works which treat generally of the Myriopoda. An almost complete list of the papers dealing with Oriental and Australian Chilopoda occurs scattered through Dr. Haase's monograph, of which special mention has been made; and in Dr. Latzel's ‘*Die Myriopoden der Öster.-Ungar. Monarchie*,’ ii. (Wien, 1884), will be found a nearly complete list, up to date, of all the publications of which this group (Myriopoda) constitutes a part or the whole of the subject-matter.



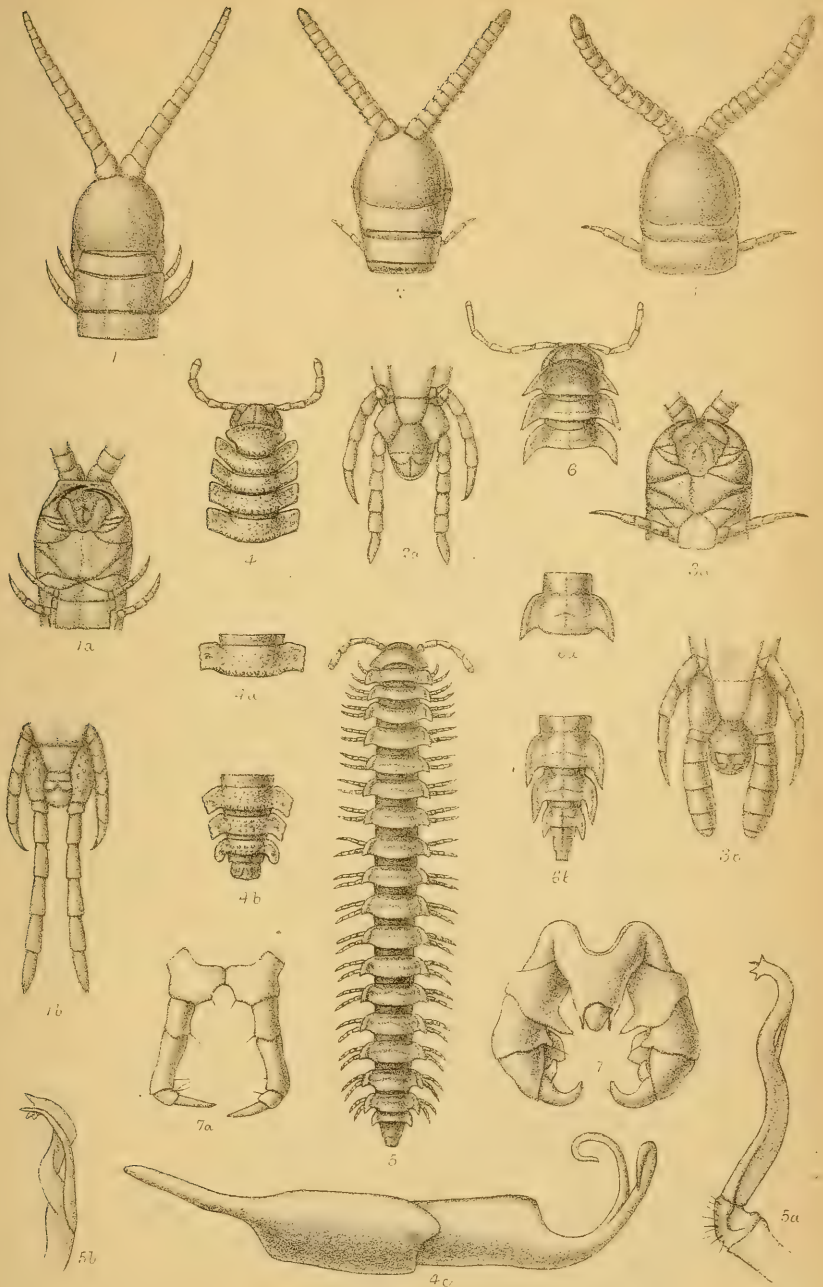
## DESCRIPTION OF THE PLATES.

## PLATE XXIV.

- Fig. 1. *Himantarium Meinerti*, sp. n. Anterior end of body, from above.  
 1 a. " " Anterior end of body, from below.  
 1 b. " " Posterior end of body, from below.  
 2. *Orphnæus brevilabiatus*. Anterior end of body, from above.  
 2 a. " " Posterior end of body, from below.  
 3. *Himantarium indicum*. Anterior end of body, from above.  
 3 a. " " Anterior end of body, from below.  
 3 b. " " Posterior end of body, from below.  
 4, 4 a, 4 b. *Acanthodesmus pilipes*. From above.  
 4 c. " " Copulatory feet.  
 5. *Paradesmus Karschi*, sp. n. From above.  
 5 a. " " Copulatory foot.  
 5 b. " " Apex of copulatory foot.  
 6, 6 a, 6 b. *Paradesmus crucifer*, sp. n. From above.  
 7. *Glomeris carnifex*, sp. n., var. *pallida*, nov. Copulatory feet.  
 7 a. " " " " " " Eighteenth pair of feet.

## PLATE XXV.

- Fig. 1. *Spirostreptus aterrimus*, sp. n. Anterior end of body, from the side.  
 1 a. " " Posterior end of body, from the side.  
 1 b. " " A median somite, from below.  
 1 c. " " Copulatory apparatus, from the front.  
 1 d. " " Internal lamina of copulatory foot.  
 2. " *epinatus* (Karsch). Anterior end of body, from the side.  
 2 a. " " Posterior end of body, from the side.  
 2 b. " " Copulatory apparatus, from the front.  
 2 c. " " Internal lamina of copulatory apparatus.  
 3. " *regis*, sp. n. Anterior end of body, from the side.  
 3 a. " " Posterior end of body, from the side.  
 4. *Spirobolus caudulanus* (Karsch). Anterior end of body, from the side.  
 4 a. " " Posterior end of body, from the side.  
 4 b. " " Posterior end of body, from below.  
 5. " *Andersoni*, sp. n. Anterior end of body, from the side.  
 5 a. " " Posterior end of body, from the side.  
 5 b. " " Copulatory apparatus, from the front.  
 5 c. " " Copulatory apparatus, from the side.  
 5 d. " " Internal lamina of copulatory apparatus.  
 6. " *piranus* (Karsch). Anterior end of body, from the side.  
 6 a. " " Posterior end of body, from the side.  
 6 b. " " Copulatory apparatus, from the front.  
 6 c. " " Copulatory apparatus, from the side.  
 6 d. " " Internal lamina of copulatory apparatus.  
 6 e. " " Apex of internal lamina of copulatory foot.

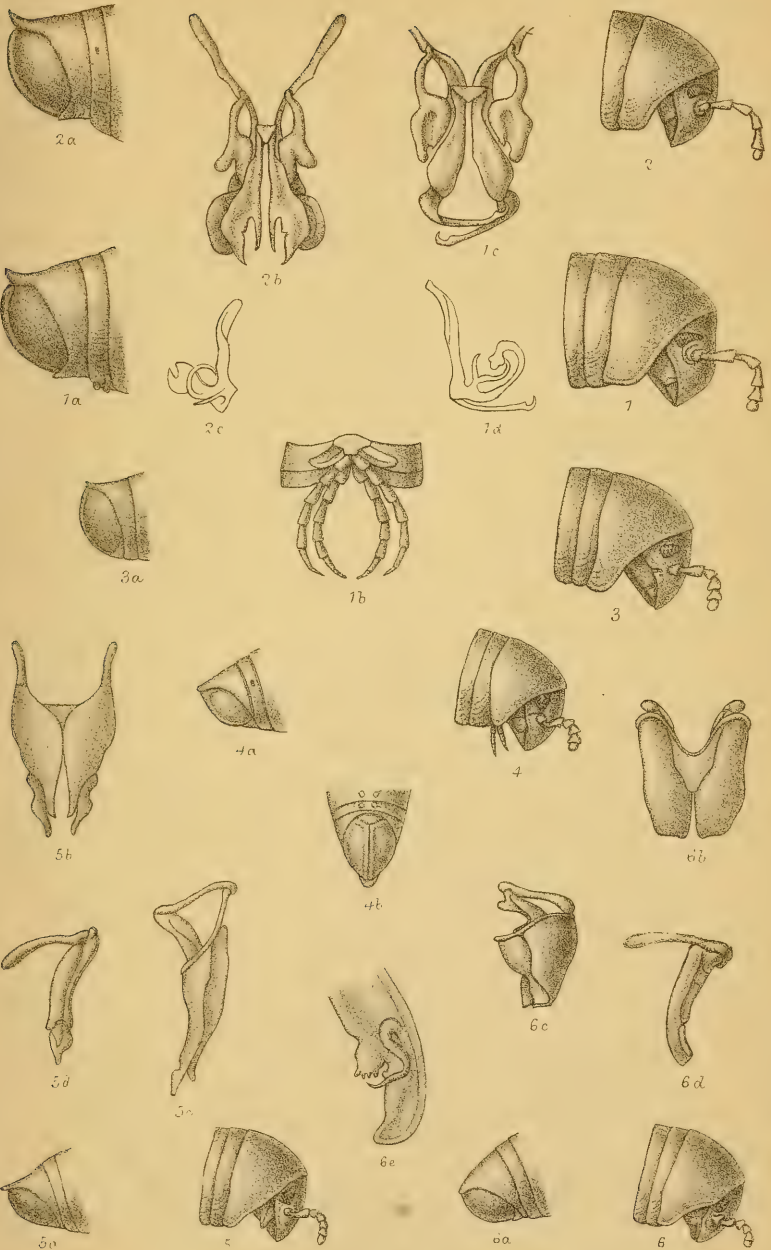


Pl. 24

Berjeau & Highley lith.

West, Newman & Co imp

MYRIOPODA OF THE MERGUI ARCHIPELAGO.



R.L.P. del.

Berjeau & Highley lith.

West, Newman & Co. imp.